SAFETY DATA SHEET

KEMIRA PIX-116

Ref. /US/EN

Revision Date: 05/19/2015 Previous date: 00/00/0000 Print Date:06/09/2015

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product information

Product name
KEMIRA PIX-116

Recommended use of the chemical and restrictions on use

Use of the Substance/Mixture

Water treatment chemical

Recommended restrictions on use

There are no uses advised against.

Supplier's details

Kemira Water Solutions, Inc.
1000 Parkwood Circle, Suite 500
30339 Atlanta USA
Telephone+18635335990, Telefax. +18635337077

HEAD OFFICE
Kemira Oyj
P.O. Box 330
00101 HELSINKI
FINLAND
Telephone +358108611 Telefax +358108621124

Emergency number

CHEMTREC: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Corrosive to metals; Category 1; May be corrosive to metals.;
Acute toxicity (Oral); Category 4; Harmful if swallowed.;
Skin irritation; Category 2; Causes severe skin burns and eye damage.;
Serious eye damage; Category 1; Causes serious eye damage.;

GHS-Labelling

Hazard pictograms :

Signal word : Danger

Hazard statements : **Hazard statements:**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.

Precautionary statements : **Prevention:**

P234	Keep only in original container.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash face, hands and any exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P321	Specific treatment (see supplemental first aid instructions on this label).
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P390	Absorb spillage to prevent material damage.

Storage:

P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.

Disposal:

P501 Dispose of contents/container as special waste in compliance with local and national regulations.

Hazardous components which must be listed on the label:

- 7705-08-0 Iron trichloride
- 7647-01-0 Hydrochloric acid

Other hazards which do not result in classification

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances /Mixtures

Chemical nature Aqueous solution

Hazardous components

Chemical Name	CAS-No.	Concentration[%]
Iron trichloride	7705-08-0	30 - 40 %
Hydrochloric acid	7647-01-0	1 - 5 %

Further information

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
This product contains WHMIS regulated (hazardous) components.

4. FIRST AID MEASURES

Description of first aid measures

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, apply artificial respiration. Obtain medical attention.

Skin contact

Take off contaminated clothing and shoes immediately. Rinse with plenty of water. Call a physician if irritation persists.

Eye contact

Important! Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If possible use lukewarm water. Consult a physician.

Ingestion

Do NOT induce vomiting. Rinse mouth with plenty of water. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Consult a physician.

Most important symptoms and effects, both acute and delayed

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Not combustible.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

No special requirements.

Special hazards arising from the substance or mixture

Heating above the decomposition temperature can cause formation of hydrogen chloride.

Special protective actions for fire-fighters

Exposure to decomposition products may be a hazard to health. In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For personal protection see section 8.

Environmental precautions

Restrict the spread of the spillage by using inert absorbent material (sand, gravel). Cover the drains. Must be disposed of in accordance with local and national regulations.

Methods and materials for containment and cleaning up

Clean-up methods - small spillage

Dilute residues with water and then neutralize with lime or limestone powder to a solid consistency. Shovel or sweep up. Must be disposed of in accordance with local and national regulations.

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Clean-up methods - large spillage

Remove spill using a vacuum truck. Dilute residues with water and then neutralize with lime or limestone powder to a solid consistency. Shovel or sweep up remaining material. Must be disposed of in accordance with local and national regulations.

Additional advice

Inform the rescue service in case of entry into waterways, soil or drains.

7. HANDLING AND STORAGE

Precautions for safe handling

The work place and work methods shall be organized in such a way that direct contact with the product is prevented or minimized. Danger for slipping. For personal protection see section 8.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid temperatures under 0°C. Hydrogen is released when product reacts with metals.
Avoid high temperatures. Avoid freezing.

Materials for packaging

Suitable material: Bulk storage containers and ancillary fill and feed systems should be constructed out of appropriate materials such as polyethylene, polypropylene, rubber-lined steel and FRP designated as appropriate for use with this product. Storage tanks should be vented to scrubber or exterior atmosphere. Storage facilities should have secondary containment as required by law or regulation. Storage tanks, piping and offloading points should be labeled with appropriate signage to avoid accidents.

Some concentrations of this product will freeze or crystallize at low temperatures. Insulate and heat-trace storage tanks, pumps, pipes and ancillary equipment as necessary.

Materials to avoid:

Metals, Bases

Stainless steel, leather, non-acid proof metals (for example aluminium, copper and iron), Reaction with some metals may evolve flammable hydrogen gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Form of exposure	Control parameters	Update	Basis
Ferric chloride	7705-08-0	TWA		1 mg/m³	2007-01-01	ACGIH
		STEL		2 mg/m³	2006-11-29	CA BC OEL
Hydrochloric acid	7647-01-0	(c)		2 ppm 3 mg/m³	2009-04-30	CA AB OEL
		C		5 ppm 7 mg/m³	2006-02-28	OSHA Z-1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of workday.

Eye wash bottle or emergency eye-wash fountain must be found in the work place.

Individual protection measures, such as personal protective equipment

Respiratory protection

When there is a potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

Hand protection

Chemical resistant gloves.

Skin and body protection

Eye protection

Tightly fitting safety goggles. Eye wash bottle with pure water

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid,
Colour	dark brown

Odour	slightly acidic
pH	ca. 1
Melting point/range	Crystallisation point/range -15 °C
Initial boiling point and boiling range	Boiling point/boiling range 105 - 110 °C
Flash point	Not applicable, inorganic compound
Evaporation rate	similar to water
Explosive properties:	
Lower explosion limit	The product is not flammable.
Vapour pressure	similar to water
Density	1.30 - 1.40 g/cm³
Solubility(ies):	
Water solubility	(20 °C) completely soluble At dilution to less than 1% of FeCl3, precipitation of iron hydroxide occurs.
Partition coefficient: n-octanol/water	Not applicable, inorganic compound
Viscosity:	
Viscosity, dynamic	similar to water
Volatile organic content (VOC)	Not applicable

10. STABILITY AND REACTIVITY

Reactivity

Chemical stability

Possibility of hazardous reactions

Hazardous reactions: Bases cause exothermic reactions.

Conditions to avoid

Conditions to avoid: Avoid freezing.
Avoid storage at high temperatures.

Incompatible materials

Materials to avoid:	Metals Bases Stainless steel leather non-acid proof metals (for example aluminium, copper and iron) Reaction with some metals may evolve flammable hydrogen gas.

Hazardous decomposition products

Hazardous decomposition products:	Heating above the decomposition temperature can cause formation of hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute oral toxicity	**Iron trichloride:** /OECD Test Guideline 423Remarks: Calculated as Fe /Rat/220 mg/kg/LD50
Acute dermal toxicity	**Iron trichloride:** LD50/Rat/> /2,564 mg/kg/OECD Test Guideline 402 Remarks: Read-across (Analogy), CAS-No., 7758-94-3 **Iron trichloride:** LD50/Rat/> /881 mg/kg/OECD Test Guideline 402 Remarks: Calculated as Fe
Skin corrosion/irritation	/Corrosive
Skin corrosion/irritation	**Iron trichloride:** Rabbit Result: irritating /OECD Test Guideline 404Remarks: Read-across (Analogy), CAS-No., 7758-94-3
Serious eye damage/eye irritation	/Corrosive

Serious eye damage/eye irritation	**Iron trichloride:** Rabbit Result: Corrosive /OECD Test Guideline 405 Remarks: Read-across (Analogy), CAS-No., 7758-94-3

Respiratory or skin sensitisation

Skin sensitisation	Not sensitizing.
Skin sensitisation	**Iron trichloride:** Conclusion: According to experience sensitization is not expected.

Carcinogenicity

Carcinogenicity	**Iron trichloride:** Not believed to be a carcinogen.

Reproductive toxicity

Toxicity for reproduction	**Iron trichloride:** Conclusion: Not believed to be toxic for reproduction.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity

The product contains no substances classified as toxic to aquatic organisms. The compound is considered to have no long term effects in aquatic systems due to the rapid formation of insoluble hydroxides.

May lower the pH of water and thus be harmful to aquatic organisms.

Iron trichloride:
LC50/96 h/Lepomis macrochirus (Bluegill sunfish): 59 mg/l
Remarks: hydrated substance
NOEC/96 h/Lepomis macrochirus (Bluegill sunfish): > 1 mg/l
Remarks: hydrated substance
EC50/48 h/Daphnia magna (Water flea): 27 mg/l
NOEC/21 d/Daphnia magna (Water flea): > 1 mg/l
EC50/15 d/algae/rate of growth: 58 mg/l
Remarks: Test is not appropriate due to the flocculating characteristics of the product.,The compound is

considered to have no long term effects in aquatic systems due to the rapid formation of insoluble hydroxides.

Toxicity to other organisms

Iron trichloride:
Remarks: No data available

Persistence and degradability

Biological degradability:

The methods for determining the biological degradability are not applicable to inorganic substances.
Chemical degradation**:**
Remarks: When reacting with water precipitates of iron hydroxides are formed., This mainly occurs at pH above 5.

Biological degradability:
Iron trichloride:
The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Partition coefficient: n-octanol/water: Not applicable, inorganic compound

Iron trichloride:
Partition coefficient: n-octanol/water: Not applicable, inorganic compound

Mobility in soil

Water solubility: completely soluble (20 °C)
At dilution to less than 1% of FeCl3, precipitation of iron hydroxide occurs.

Iron trichloride:

Other adverse effects

May lower the pH of water and thus be harmful to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Product	Must be disposed of in accordance with local and national regulations.EPA Hazardous Waste - D002.
Contaminated packaging	Packages that cannot be cleaned must be disposed of the

same way as the unused product.

14. TRANSPORT INFORMATION

UN number 2582

Land transport
DOT:
Description of the goods: UN2582, Ferric chloride, solution
Proper shipping name
Class: 8
Packaging group: III
DOT-Labels 8
Reportable quantity Ferric chloride

TDG:
Description of the goods: UN2582, Ferric chloride, solution
Proper shipping name
Class: 8
Packaging group: III
TDG-Labels 8
Reportable quantity Ferric chloride

Sea transport
IMDG:
Description of the goods:
UN proper shipping name UN2582, FERRIC CHLORIDE, SOLUTION
Class: 8
Packaging group: III
IMDG-Labels: 8
Environmentally Hazardous Not a Marine Pollutant

Air transport
ICAO/IATA:
Description of the goods:
UN proper shipping name UN2582, Ferric chloride solution
Class: 8
Packaging group: III
ICAO-Labels: 8
Special precautions for user

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Title III Section 311 Categories
Immediate (Acute) Health Effects: Yes;
Delayed (Chronic) Health Effects: No;
Fire Hazard: No;
Sudden Release Of Pressure Hazard: No;
Reactivity Hazard: No;

SARA 313 - Specific Toxic Chemical Listings
Hydrochloric acid (7647-01-0)
OSHA a. United States Occupational Safety and Health Administration substances, 29 CFR 1910.1000, Sub Part Z.
CERCLA Hazardous substance (Reportable Quantities)
CERCLA Hazardous substance (Reportable Quantities)
Iron trichloride (7705-08-0)
1,000 lb

Hydrochloric acid (7647-01-0)
5,000 lb

WHMIS Classification
E Corrosive Material

Iron trichloride (7705-08-0)

California Proposition 65

Proposition 65 component ()
Remarks: This product contains (a) chemical(s) known to the State of California to cause cancer.
Radionuclides Note: Ferric chloride contains Naturally Occurring Radioactive Materials (NORM) similar to normal background levels found in many materials including soils, wastewaters, and in oil and gas production. Like normal waters and wastewaters, ferric chloride contains trace but measurable levels of naturally occurring uranium, thorium and radium. These NORM materials can deposit and concentrate inside surfaces of piping, vessels (especially rubber lined vessels), pumps, and other water producing and processing equipment. NORM may also be present in water treatment sludges or ash.

: No restrictions identified other than those already covered in regulations.

Notification status

:
: All components of this product are included in the United States TSCA Chemical Inventory or are not required to be listed on the United States TSCA Chemical Inventory.
: All components of this product are included in the Canada Domestic Substance List (DSL) or are not required to be listed on the Canada Domestic Substance List (DSL).
: All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on the Australian Inventory of Chemical Substances (AICS).
: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.
: All components of this product are included in the Korean (ECL) inventory or are not required to be listed on the Korean (ECL) inventory.
: All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine (PICCS) inventory.
: All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese (ENCS) inventory.
: All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) or are not required to be listed on EINECS.
: All components of this product are included in the New Zealand inventory (NZIoC) or are not required to be listed on the New Zealand inventory(NZIoC).
: This product's Taiwan Toxic Chemical Substances Control Act Inventory status has NOT been determined.

16. OTHER INFORMATION

HMIS Rating

Health: 3
Flammability: 0
Reactivity: 1

NFPA Rating

Health: 3
Fire: 0
Reactivity: 1

Training advice

Read the safety data sheet before using the product.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Sources of key data used to compile the Safety Data Sheet

Regulations, databases, literature, own tests.

Additions, Deletions, Revisions

Relevant changes have been marked with vertical lines.